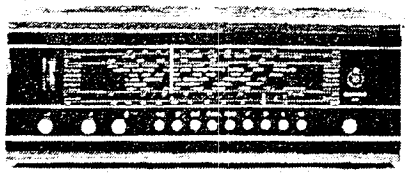
ERT SERVICE CHART 1725

BEOMASTER 900K, 900M, 900RG

STEREO TUNER/ AMPLIFIER



Picture shows stereo tuner/amplifier Beomaster 900M. This unit is incorporated in the Beomaster 900K radio which has integral speaker enclosures with grooved baffles at the ends, and in the radiogram Beomaster 900RG. All models will accept the decoder which is available separately. Cabinets have teak or rosewood finish

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TABLE RADIO tuning LW, MW, SW and VHF/FM bands. Circuit uses 24 transistors and 10 diodes. Unit is available for use with separate speaker enclosures (model 900M), with integral speakers (900K) or incorporated in radiogram model 900RG.

Mains. 110, 130, 220, 240V AC 50c/s.

Consumption. 10W at 100mW output, 65W at maximum output.

Transistors. TR1 BF115; TR2 BF115; TR3 AF116/AF126; TR4 AF116/AF126; TR4B OC71; TR5 2N2654/AF121; TR6 AC151; TR7 AC151; TR8 AC151; TR9 AC151; TR10 AC153; TR11 AC153; TR12 AC132; TR13 AC127; TR14 AC132; TR15 AC127; TR16 AC156; TR17 AC151; TR18 2N555; TR19 BC154; TR20 BC154; TR21 AD139; TR22 AD139; TR23 AD139; TR24 AD139.

Diodes. D1 OA90; D2 2BA101; D3 OA70; D4 OA79; D5 OA79; D6 OA90; D7 OA79; D8 AA119; D9 AA119; D10 IN757A.

Wavebands. LW 2040-857m (147-350kc/s); MW 578-188m (520-1600kc/s); SW 50.4-48.4m (5.95-6.2mc/s); VHF/FM 87.5-108mc/s.

IFs. AM 468kc/s, FM 10.7mc/s.

Aerials. MW, LW internal ferrite rod.

Pilot lamps. LP1 stereo indicator lamp 19V 0.097A; LP2, LP3 dial lamps 6.3V 0.3A.

Outlets. 5-contact DIN socket for mono and stereo recorders. Diode output 100mV at 1kc/s; playback 450mV at 1kc/s. DIN socket for two side speakers and one additional speaker on left channel.

Fuses. FS1 1A fuse link; FS2, FS3 250mA.

Output. 6W per channel continuous, 8W per channel peak.

Speakers. Model 900K, 3.2ohm impedance ellipitical.

Dimensions. 900K $29\frac{1}{4} \times 5\frac{5}{8} \times 9\frac{3}{8}$.; 900M $15\frac{5}{8} \times 5\frac{5}{8} \times 9\frac{3}{16}$in.

Manufacturer. Bang & Olufsen, Denmark.

Service Department. Eastbrook Road, Gloucester. Tel: Gloucester 21591.

SERVICE NOTES

In model 900K, cabinet forms pressure chamber for speakers so that if chassis is removed from cabinet power fed to speakers must be limited to avoid damage to speaker cones.

ALIGNMENT

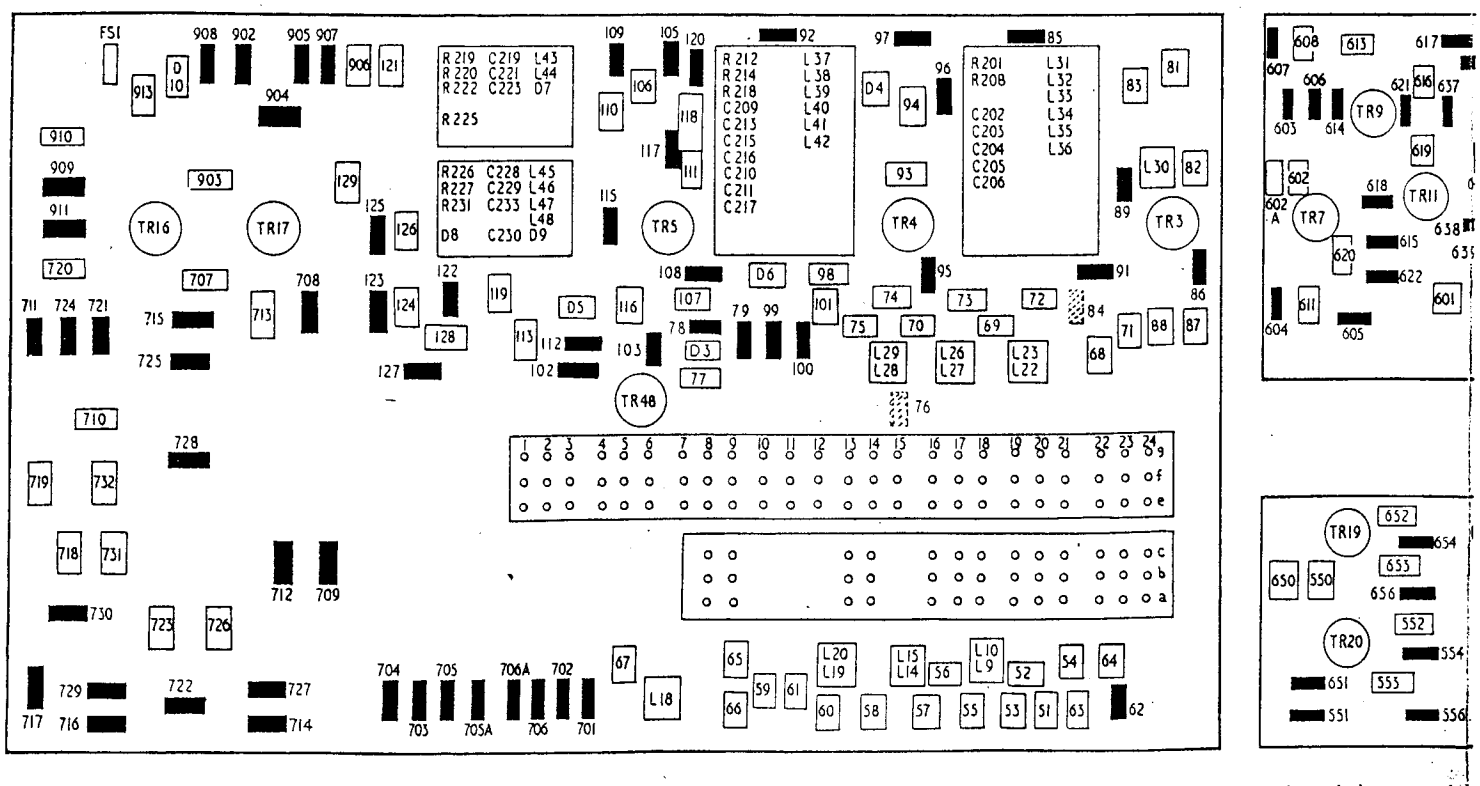
Equipment requires. AM/FM signal generator; sweep generator; oscilloscope; AF output meter; dummy aerial; 100KpF capacitor; polystyrene cement; trimming tools.

General. Maintain output of about 50mW with volume control fully advanced to prevent AGC action masking alignment peaks.

AM IF. Select MW and fully mesh tuning capacitor. Apply 468kc/s signal with about 20kc/s frequency swing from sweep generator through 100KpF capacitor to base of TR3. Detune coils L2, L1 and L18. Connect 'scope to AM detector stage and adjust in turn cores L43/44, L38, L37, L32, L31 for symmetry and maximum response.

Band width of 5kc/s ±0.5kc/s at 6dB should be obtained. Sensitivity at TR3 base for 50mW output, 1microvolt; at TR4 base 7microvolts; at TR5 base 230microvolts.

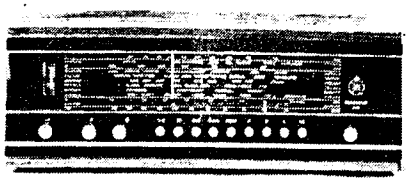
Transfer signal to aerial socket and adjust core of L2 for minimum response. Fully open tuning gang and adjust core of L1 for minimum response. Inject signal



Layout of components on circuit boards, showing resistors in solid black and capacitors in outline only; bottom centre, AF output board; bottom right amplifier; at left, AM tuner and IF board

BEOMASTER 900K, 900M, 900RG

STEREO TUNER/ AMPLIFIER



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Additional copies of this chart 1s. 6d. including postage. Payment with order please to E R T, Dorset House, Stamford Street, London, SE1.

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Transfer signal to aerial socket and adjust core of L2 for minimum response. Fully open tuning gang and adjust core of L1 for minimum response. Inject signal to ferrite aerial and adjust L18 for minimum response.

AM RF. Select LW and set tuning cursor to 155kc/s. Apply 155kc/s signal with 30 per cent AM at 400 c/s to aerial socket. Adjust core of L28 for maximum output selecting peak nearer chassis. Set receiver and signal generator to 285kc/s and adjust C74 for maximum output.

Select MW, tune receiver and signal generator to 575kc/s and adjust L26 for maximum output Set receiver and signal generator to 1495kc/s and adjust C73 for maximum output.

Select SW and tune receiver and signal generator to 5.95mc/s. Adjust L22 for maximum output. Set receiver and signal generator to 7.45mc/s and adjust C72 for maximum output.

Select LW and tune receiver to 155kc/s. Inject 155kc/s signal to ferrite aerial and adjust position of L8 on aerial to get maximum response. Tune receiver and signal generator to 285kc/s and adjust C63 for maximum output.

Switch receiver to MW and tune to 575kc/s. Inject 575kc/s signal and adjust position of L17 on ferrite rod to get maximum output. Tune receiver and signal generator to 1495kc/s and adjust C66 for maximum.

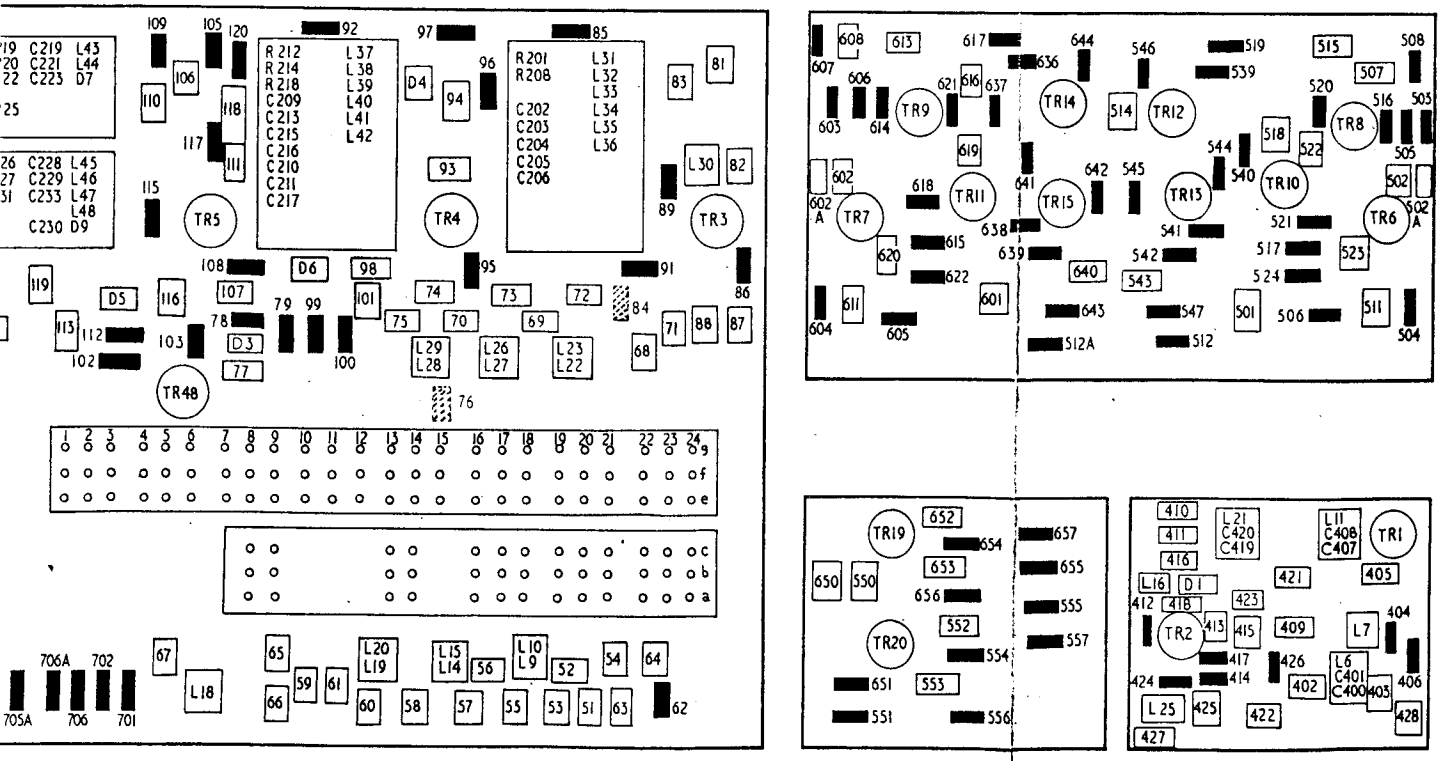
Select LW and tune receiver to 155kc/s. Inject 155kc/s signal to aerial socket through dummy aerial and tune L9/10 for maximum output. Tune receiver and signal generator to 285kc/s and trim C25 for maximum output.

Select MW and tune set and signal generator to 575kc/s. Adjust core of L15/14 for maximum. Tune set and generator to 1495kc/s and trim C57 for maximum.

Select SW and tune receiver and generator to 5.95mc/s and adjust L19/20 for maximum. Tune receiver and generator to 7.45mc/s and trim C60 for maximum.

FM IF. Select FM band and position

continued overleaf



ng resistors in solid black and capacitors in outline only; bottom centre, AF output board; bottom right FM RF and tuner board; top right, AF amplifier; at left, AM tuner and IF board

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Switch receiver to MW and tune to 575kc/s. Inject 575kc/s signal and adjust position of L17 on ferrite rod to get maximum output. Tune receiver and signal generator to 1495kc/s and adjust C66 for maximum.

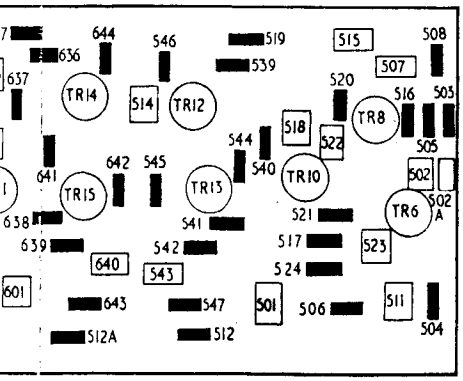
Select LW and tune receiver to 155kc/s. Inject 155kc/s signal to aerial socket through dummy aerial and tune L9/10 for maximum output. Tune receiver and signal generator to 285kc/s and trim C25 for maximum output.

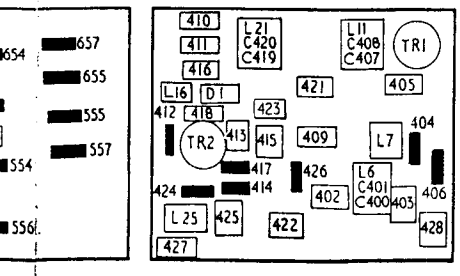
Select MW and tune set and signal generator to 575kc/s. Adjust core of L15/14 for maximum. Tune set and generator to 1495kc/s and trim C57 for maximum.

Select SW and tune receiver and generator to 5.95mc/s and adjust L19/20 for maximum. Tune receiver and generator to 7.45mc/s and trim C60 for maximum.

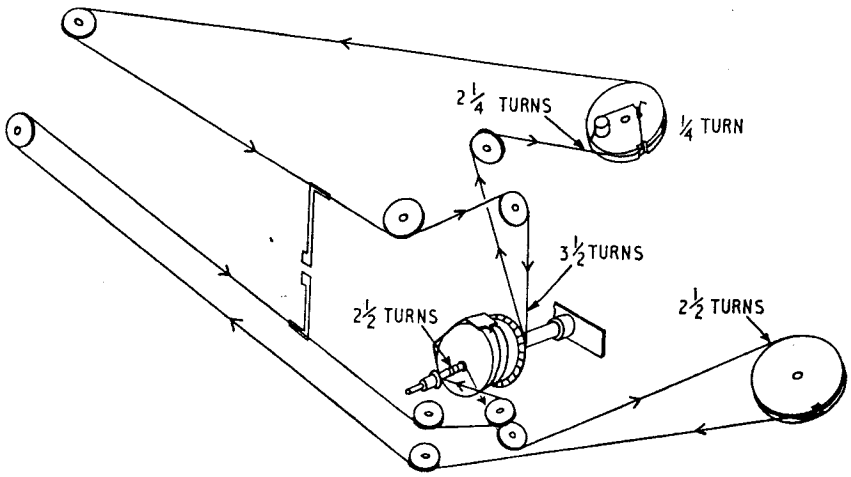
FM IF. Select FM band and position

continued overleaf



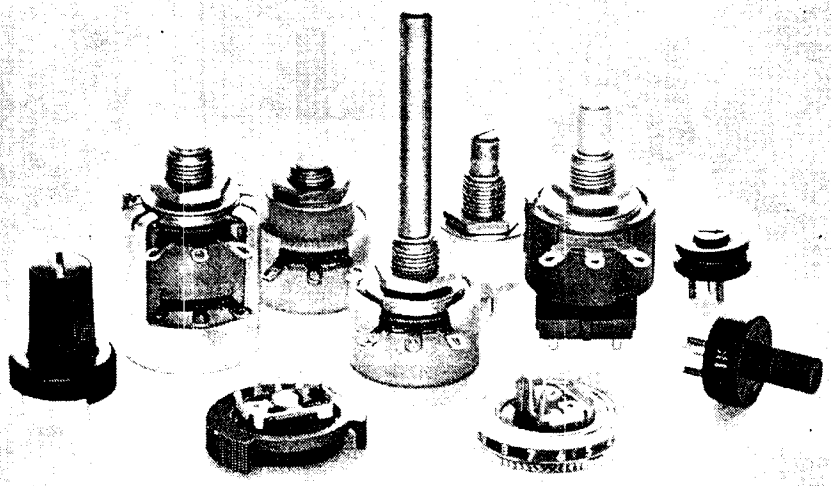


right FM RF and tuner board; top right, AF



Lacing of tuning drive cords. Upper cord needs to be about 63in. long and lower one about 55in. long, allowing for tying-off ends

New Weapons for the war against noise



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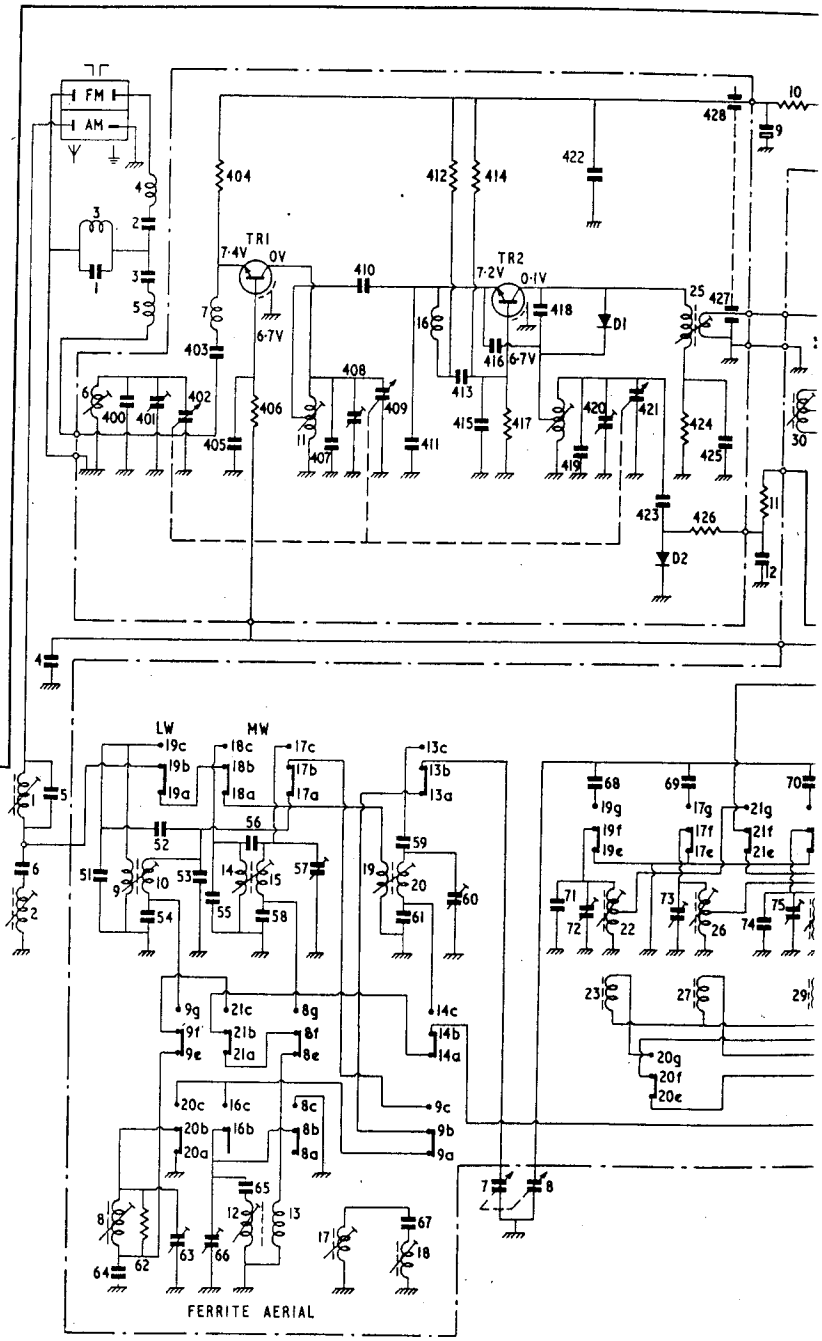
1	47pF	—	99	—	18K	405	1KpF	—	424	—	68	515A	—		
2	22pF	—	100	—	68K	406	—	680	425	3K3	—	516	—		
3	22pF	—	101	10KpF	—	407	12pF	—	426	—	100K	517	—		
4	10KpF	—	102	—	4K7	408	1–9pF		427	1KpF	—	518	100mF/80mF		
5	1KpF	—	103	—	10K	409	gang		428	1KpF	—	519	—		
6	33pF	—	105	—	470K	410	4.7pF		501	160mF/64mF		520	—		
7	gang	—	106	6.4mF	—	411	22pF		502	10mF	—	521	—		15K/1
8	gang	—	107	100KpF	—	412	—	1K	502A	330pF	—	522	1K5pF		
9	125mF	—	108	—	820	413	220pF	—	503	—	47K	523	125mF/100mF		
10		100	109	—	470	414	—	3K3	504	—	68K/120K	524	—		
11		100K	110	10KpF	—	415	1KpF	—	505	—	5K6	539	—		
12	10KpF		111	12pF	—	416	5.6pF	—	506	—	4K7	540	—		
13	—	47	112	—	47K	417	—	10K	507	125mF/100mF	—	541	—		
14	—	10	113	10KpF	—	418	100pF	—	508	—	22	542	—		
15	1000mF	—	115	—	470	419	12pF	—	511	2.5mF/1.6mF	—	543	100mF/80mF		
16	—	47K	116	8.2pF	—	420	1–9pF	—	512	—	470	544	—		
17	—	47K	117	—	2K2	421	gang	—	512A	—	470	545	—		
18	800mF	—	118	10KpF	—	422	10KpF/1KpF		514	80mF/64mF	—	546	—		
19	800mF	—	119	100mF	—	423	8.2pF	—	515	2.5mF/1.6mF	—	547	—		
51	68pF	—	120	—	10K										
52	22pF	—	121	22KpF	—										
53	60pF	—	122	—	2K										
54	3K3pF	—	123	—	18K										
55	33pF	—	124	4mF	—										
56	2.2pF	—	125	—	18K										
57	60pF	—	126	4mF	—										
58	4K7pF	—	127	—	1M										
59	68pF	—	128	100KpF	—										
60	60pF	—	129	6.4mF	—										
61	820pF	—	201	—	47K										
62	—	560K	202	180pF	—										
63	20pF	—	203	180pF	—										
64	1K5pF	—	204	20pF	—										
65	4K7pF	—	205	180pF	—										
66	20pF	—	206	47KpF	—										
67	150pF	—	207	180pF	—										
68	220pF	—	208	—	270										
69	360pF	—	209	180pF	—										
70	68pF	—	210	8pF	—										
71	82pF	—	211	180pF	—										
72	60pF	—	212	—	100K										
73	60pF	—	213	47pF	—										
74	22pF	—	214	—	270										
75	20pF	—	215	180pF	—										
76	—	10	216	4K7pF	—										
77	10KpF	—	217	180pF	—										
78	100K	100K	218	—	330										
79	—	100K	219	2K2pF	—										
81	180pF	—	220	—	33K										
82	180pF	—	221	3K3pF	—										
83	47KpF	—	222	—	1K2										
84	—	47K	223	2K2pF	—										
85	—	680	224	—	10K										
86	—	220	225	—	1K2										
87	10KpF	—	226	—	270										
88	10KpF	—	227	—	47										
89	—	15K	228	47pF	—										
91	—	10K	229	100pF											
92	—	1K2	230	100pF	—										
93	47KpF	—	231	—	1K										
94	100 KpF	—	400	12pF											
95	—	220	401	1–9pF											
96	—	470	402	gang	—										
97	—	500	403	1KpF	—										
98	8.2pF	—	404	—	1K										



tuning cursor at 97mc/s mark. Connect 'scope to TR5 collector through diode probe. Disable AFC and inject 10.7mc/s signal with about 1mc/s swing from sweep generator to aerial socket. Adjust in turn cores of L30, L35, L36, L41 and L42 to get maximum response and symmetrical curve; bandwidth 250kc/s ± 30kc/s at 6dB.

Transfer 'scope to FM detector stage and inject signal from sweep generator without diode probe. Adjust L47 and L46 for maximum response and symmetrical curve. Adjust R122 for best noise suppression.

FM RF. Set receiver tuning pointer to 89mc/s and inject 89mc/s signal with 22.5kc/s deviation at 400c/s to aerial socket. Adjust L21 core for maximum output. Tune receiver and signal generator to 106mc/s and trim C420 for maximum output.

Tune receiver and signal generator to 89mc/s and adjust core of L11 for maximum. Tune set and generator to 106mc/s and trim/C403 and C404 for maximum output.

Circuit diagram for chassis common to Beomaster 900M, 900K and 900RG. Voltages shown are negative with respect to chassis and were measured under no signal conditions ▶

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—	18K	405	1Kpf	—	424	—	68	515A	—	1K	550	10mF	—	613A	—
—	68K	406	—	680	425	3K3	—	516	—	39K	551	—	4K7	614	—
10Kpf	—	407	12pF	—	426	—	100K	517	—	39K	552	100mF	—	615	—
—	4K7	408	1–9pF		427	1Kpf	—	518	100mF/80mF	—	553	640Kpf	—	615A	330pF
—	10K	409	gang		428	1Kpf	—	519	—	220	554	—	33K	616	100mF/8mF
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5.4mF	—	411	22pF		502	10mF	—	521	—	15K/10K	556	—	2K2	618	—
100Kpf	—	412	—	1K	502A	330pF	—	522	1K5pF	—	557	—	47K	619	1K5pF
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—	470	414	—	3K3	504	—	68K/120K	524	—	4K7	602	10mF	—	621	—
10Kpf	—	415	1Kpf	—	505	—	5K6	539	—	1K5	602A	330pF	—	622	—
12pF	—	416	5.6pF	—	506	—	4K7	540	—	50	603	—	47K	636	—
—	47K	417	—	10K	507	125mF/100mF	—	541	—	10	604	—	68K/120K	637	—
10Kpf	—	418	100pF	—	508	—	22	542	—	330	605	—	4K7	638	—
—	470	419	12pF	—	511	2.5mF/1.6mF	—	543	100mF/80mF	—	606	—	5K6	639	—
3.2pF	—	420	1–9pF	—	512	—	470	544	—	100	607	—	22	640	100mF/40mF
—	2K2	421	gang	—	512A	—	470	545	—	100	608	125mF/100mF	—	641	—
10Kpf	—	422	10Kpf/1Kpf		514	80mF/64mF	—	546	—	0.4	611	2.5mF/1.6mF		642	—
100mF	—	423	8.2pF	—	515	2.5mF/1.6mF	—	547	—	0.4	613	2.5mF/1.6mF		643	—
—	10K														
22Kpf	—														
—	2K														
—	18K														
4mF	—														
—	18K														
4mF	—														
—	1M														
100Kpf	—														
5.4mF	—														
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—	330														
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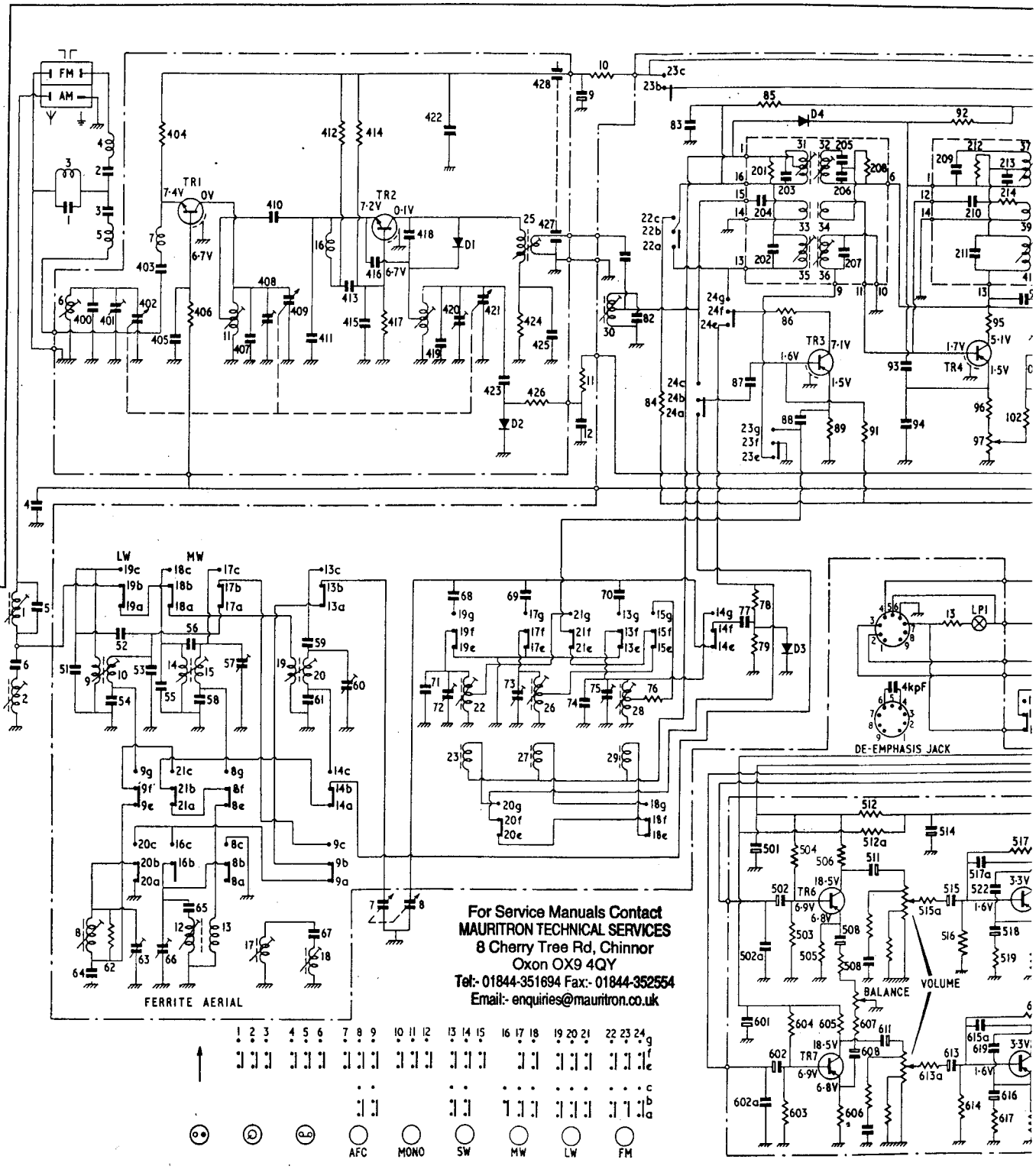

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Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

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706A	—	4K7
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709	—	330

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711	—	680
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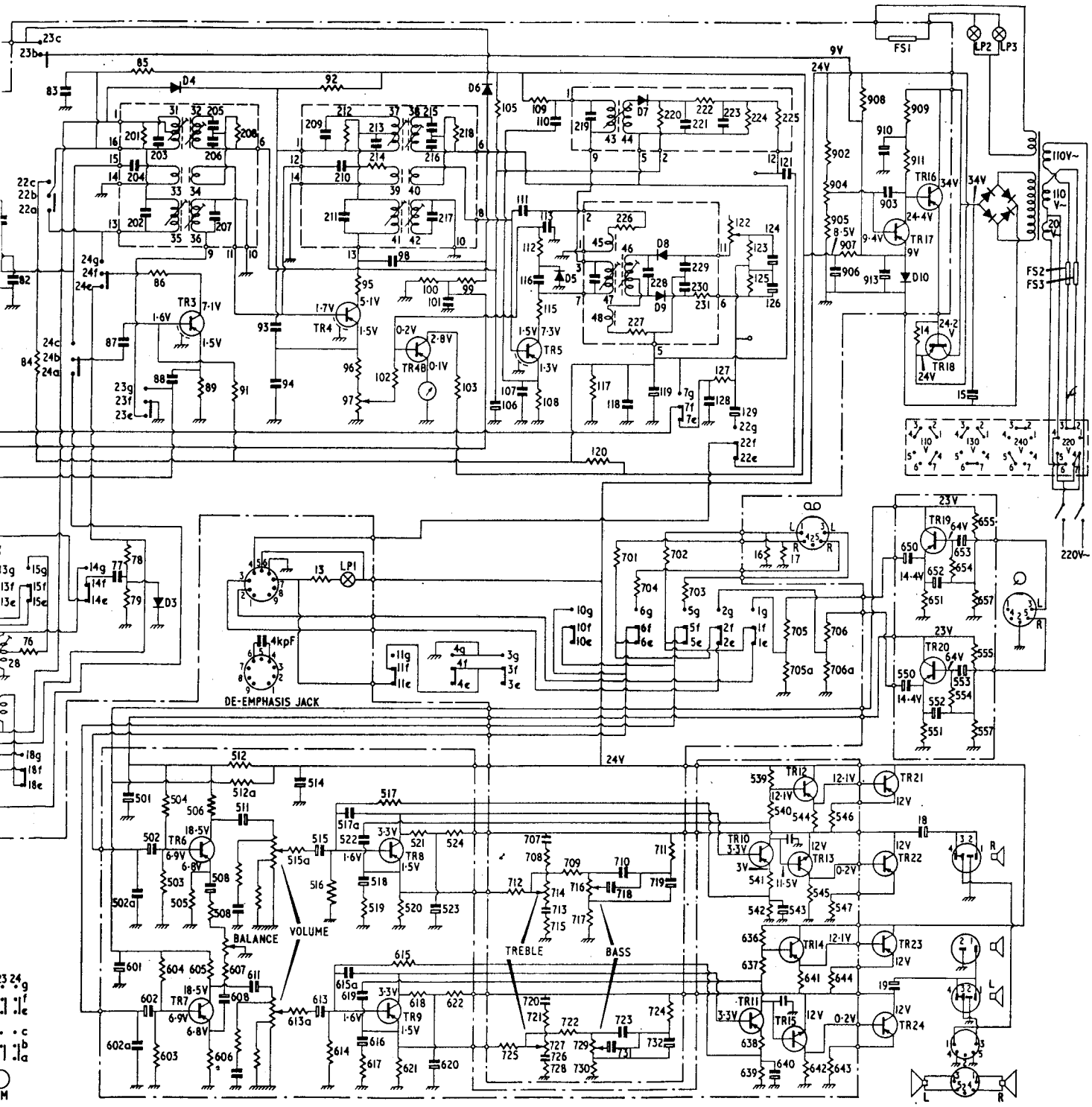

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MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk